

Texas Dairy Matters

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AFLATOXIN IN BALED CORN

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In an attempt to salvage something from drought-stricken corn fields, many growers have baled dried corn plants for use as hay. Whenever the hay contains ears with kernels, there is a risk of aflatoxin contamination.

We recently collected samples of ears from two corn fields north of Dallas destined for hay production. Kernel samples from a composite of several ears from each of the two fields measured 590 ppb and 1700 ppb. We also did a more specific analysis of two representative dried corn plants still standing in a field near Frisco, TX. Kernels from the plants measured 2200 ppb and 1400 ppb. These kernels accounted for about one-third of the plant weight. If cattle feed on stalks and leaves of the hay, as well as kernels, then their intake of aflatoxin is diluted, since aflatoxin is associated only with the kernels. However, this dilution may be insufficient to allow for certain feed uses, particularly dairy feed.

Without measurements, one can not be sure of the amount of aflatoxin contamination in corn cut for hay. In some fields where few of the plants made ears containing kernels, the amount will be lower. Adding to the uncertainty is the potential for further aflatoxin accumulation after baling if the kernel moisture content is not below 16%. In the Frisco sample, the moisture contents of the two kernel samples were 23% and 34%. Aflatoxin can continue to accumulate as kernels dry down, to moisture contents as low as 16%.



Representative ear samples from the Frisco, TX corn field, collected on July 13, 2006. The ear at the bottom of the photo shows visible colonization by *A. flavus*.

Ears sampled from the Frisco field were small. Most had insect damage and visible mold, but not all had the light-green, fuzzy growth of *Aspergillus flavus*, the fungus that produces aflatoxin. However, kernels without visible *A. flavus* growth can still have aflatoxin.

So, in addition to potential problems of high nitrate levels in hay made from drought-stricken corn, there is also a potential risk of aflatoxin contamination that can preclude its use for dairy feed.



Aspergillus flavus growth on corn.

If you have questions about aflatoxin, please contact:

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